



AIR BASE WING AND AIR MOBILITY WING CONSOLIDATION ON AMC-LED
JOINT BASES: A DELPHI STUDY

GRADUATE RESEARCH PAPER

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GRADUATE RESEARCH PAPER

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In Partial Fulfillment of the Requirement for the
Degree of Master of Science in Logistics

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Major, USAF

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Abstract

This research examined the proposed consolidation of the Air Base Wing (ABW) and Air Mobility Wing (AMW) or Airlift Wing (AW) on Air Mobility Command-led Joint Base installations at Joint Base McGuire-Dix-Lakehurst (JBMDL) and Joint Base Charleston (JBC). This study utilized a Delphi Study of 17 Air Force and Army Officers with experience as Colonels or above as commanders or deputies in the last 3 years at these Joint Bases. The panel shared their insights through three rounds of detailed questionnaires to better understand the potential benefits and consequences of a consolidation of the two wings.

This study found that this panel of experts generally tended to support the consolidation of the ABW with the AMW or AW on these Joint Bases in favor of unity of command and better alignment with Air Force doctrine and regulations. However, a clear dissenting minority on the panel expressed concern that this consolidation would result in a reduction in the focus on Army and Navy mission partners on these Air Force-led Joint Bases and increase the span of control of the combined wing commander beyond what may be desired for optimum management. These results indicate that consolidation of the wings is possibly a desirable path for improved command and control of Air Mobility Command (AMC) forces on Air Force-led Joint Bases.

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Finally, I would like to say a special thank you to all the members of my research panel. Without your invaluable and insightful contributions this research would not have been possible. Panel members are listed below in no particular order:

Maj Gen William Bender, Deputy Chief, Office of Security Cooperation - Iraq
Maj Gen Frederick Martin, USAF EC/CC
Brig Gen Marth Meeker, USAF EC/CV
Brig Gen John Wood, Deputy AMC A5/8
Col William Anderson, USAFE A5/8/9
Col Darren Hartford, 437 AW/CC
Col James Fontanella, 315 AW/CC
Col Richard Williamson, 305 AMW/CC
Col Jeffery Doll, Army Support Activity, Ft. Dix/CC
Col James Hodges, 87 ABW/CC
Col Chris Patterson, USAF EC/DE
Col James Craft, 305 AMW/CV
Col Paul Murphy, AMC/SE
Col Charles Coursey, 87 ABW/CD-Army
Col Michael Underkofler, 514 AMW/CC
Col Jeffrey Devore, 628 ABW/CC
Col Martin Chapin, 621 CRW/CC
Col Robert Meyer, 108 WG/CC

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AIR BASE WING AND AIR MOBILITY WING CONSOLIDATION ON AMC-LED JOINT BASES: A DELPHI STUDY

I. Introduction

Background, Motivation and Issues

The current Joint Base management construct at Air Mobility Command-led Joint Bases consists of one Air Base Wing (ABW) and one Air Mobility Wing (AMW) or Airlift Wing (AW). The ABW is charged with supporting the Joint Base with one medical group, one mission support group and a robust wing staff. The AMW or AW is composed of one operations group, one maintenance group and is responsible for operating the airfield and associated aircraft. This arrangement is relatively new to our modern Air Force, having been created in response to the 2005 Base Realignment and Closing Commission and at the recommendation of the Office of the Secretary of Defense. However, this arrangement has its critics, who raise concerns about the unity of effort created amongst Air Forces on these installations and congruence with Air Force doctrine. While most Air Force installations are governed by one wing, our Air Force-led Joint Bases now have two to do the same work. In a time of fiscal restraint, this situation warrants further investigation and a better understanding of how this situation came about.

Closing Department of Defense (DoD) installations is difficult. The loss of steady jobs and economic support can be detrimental to a community. Naturally, elected representatives take a keen interest and typically advocate strongly for their constituents to maintain bases in their districts. Understanding the importance of adjusting infrastructure, but acknowledging the political difficulties of the process, Congress enacted a Base Realignment and Closing Commission (BRACC). In 2005, this fifth round of BRACC mandated the formation of 12 Joint Service Bases, where multiple services shared the use

of a DOD installation, and assigned one of the services as the lead at each base. Five of these bases were assigned to the Air Force, two of which fell under Air Mobility Command (AMC); Joint Base McGuire-Dix-Lakehurst (JB MDL) and Joint Base (JB) Charleston (Defense, 2008). However, this law did not prescribe the organizational structure required to perform host functions on the bases such as facility management, housing, security and airfield management. In 2008, as implementation deadlines loomed, and at the direction of the Office of the Secretary of Defense (OSD) the Air Force, borrowing from the Army and Navy model, created Air Base Wings at each Air Force-led Joint Base to perform host functions to meet BRACC requirements.

In 2009, to implement this structure, the lead wing at each of these bases was split into two separate wings, creating an ABW from the Mission Support Group and Medical Group to perform Installation Command functions; and an airfield and aviation wing from the Operations Group and Maintenance Group as shown in Figure 1. Of note, the aviation wings maintained responsibility for the operations of the airfield, distinct from the rest of the installation, under the logic that airfield operation is a core mission competency of our service. However, without a civil engineering squadron, or allocated resources for maintenance, the aviation wings were required to rely on the ABW for all construction and maintenance requests on the airfield. Essentially, giving the aviation wings responsibility for the airfield without control of the resources to maintain it.

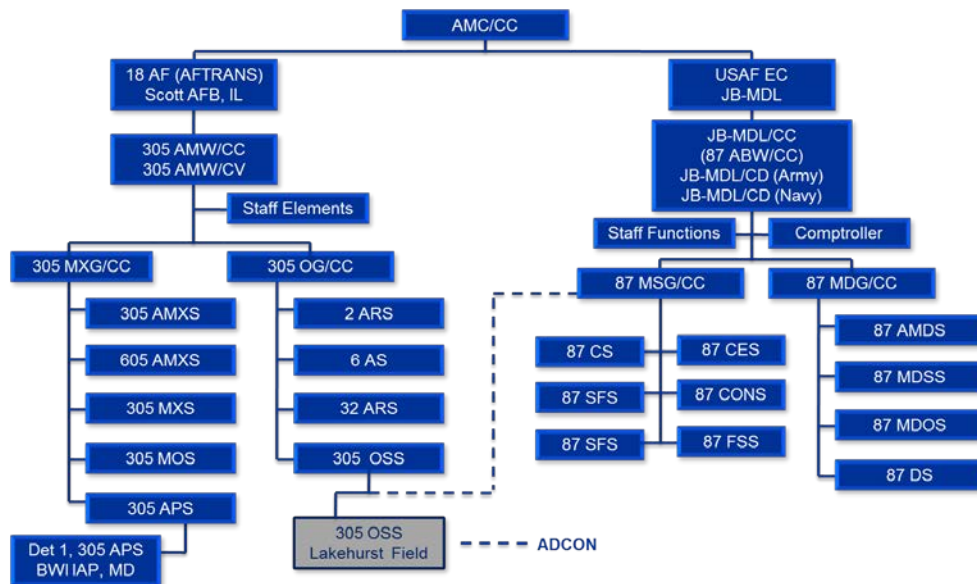


Figure 1: Typical AMC Joint Base Construct (Murphy, 2012)

It is possible that this dual-wing construct requires more personnel, more money, and delivers similar mission performance. In light of recent sequestration and budgeting struggles, any opportunity to save money, manpower or improve effectiveness should be evaluated. Furthermore, guidance from the SECAF published in July of 2013 directs a 20% reduction in headquarters staff billets and a general streamlining of our Air Force's organizational structure (Welsh, 2013). Consolidating two wings into one on our Air Force-led Joint Bases is a possible extension of this mandate. The purpose of this research project will be to consider the feasibility, potential benefits and unintended consequences of consolidating the AMW or AW and ABW into a single Joint Base host-wing on AMC-led Joint Bases.

Research Problem Statement

The objective of this research is to evaluate the effectiveness of the wing bifurcation, and explore the possibility of a return to a single wing construct on AMC Joint bases for the purpose of saving money and manpower, and improving operational performance. Four years after Joint Basing implementation at JB MDL and JB Charleston, cadres of current and past Commanders, Vice Commanders, and other Joint Basing experts

have emerged with insights, observations, and opinions that should be leveraged on the issues commonly associated with this organizational structure.

Primary Research Question:

- Should the Air Force consolidate the ABW and AMW or AW into one unified wing at AMC-led Joint Bases?

Sub-questions:

- What are the inherent advantages of an ABW and an AMW or AW as distinct organizations that could be affected by a change?
- What are the potential benefits and unintended consequences of consolidating the two wings?
- What factors should be considered as senior leaders evaluate the feasibility of consolidating wings?

Hypothesis:

- A single host-wing construct is preferable for optimizing operational effectiveness and could save money and manpower on AMC-led Joint Bases.

Research Objective and Focus

This research accepts Joint Basing as a given, by law, and seeks to evaluate the effectiveness of the current construct in AMC for organizing mobility forces on Joint Bases and explores the feasibility, advantages and disadvantages of consolidating the two wings back to a single wing in support of a unified host-wing organizational model. No attempt will be made to evaluate Joint Basing as prescribed by BRACC, only to explore the best way for the Air Force to lead on our Joint installations. Furthermore, this research will not attempt to explore or evaluate the “one base, one boss” concept whereby each base only has one commander who is fully accountable for all forces on his or her installation. This research accepts that tenant units, from all services, require the services provided by the

host service including infrastructure, airfield support, housing and community services. The intent of this research, rather, is to explore the question of how many organizations should be providing host services, one or two.

Benefits and Implications of the Research

The most immediate application of this research is to inform senior decision makers on the streamlining of our organizational structure and the possibility of consolidating two wings into one on our AMC-led Joint Bases. This would eliminate two AMC wings, possibly saving money and manpower and possibly improving the effectiveness of our forces. More broadly, this research could easily be applied to the other Joint Bases outside of AMC where the Air Force has the lead including JB Andrews, JB Langley-Eustis and JB Elmendorf-Richardson.

A literature review is next discussed in Chapter II, followed by the research methodology in Chapter III. The paper will then transition into Chapter IV to analyze the research data and finally conclude in Chapter V by highlighting the results of this study and making recommendations for future research.

II. Literature Review

The Delphi Method

Predicting the future could possibly be the most challenging and important task for senior organizational leaders. Leaders of nearly any organization are routinely asked by various stakeholders to make choices and commit resources for the future benefit of the organization based on the best information available at the time, but without any guarantee that the future will in any way resemble their expectations. Statistical forecasting is one common tool used to assist with this task, but it is often limited in scope, taking into account only a few of the many variables at work to influence future outcomes. The difficulty then is to find a way to take into account all of the available information to create a forecast. One method available to incorporate massive amounts of information to predict the future is the Delphi method. The Delphi method could be used to evaluate a reorganization option inside the United States Air Force and predict future success or failure. One such reorganization option is to combine the Air Base Wing and active duty mission wing on Joint Bases.

The Delphi method was developed in the United States in the 1950's at the Rand Corporation by Olaf Helmer (Linestone, 2002). The name Delphi is a reference to the Oracle of Delphi from ancient Grecian times known for predicting the future. The dawn of nuclear weapons and the cold war brought many changes and there were numerous studies ordered to predict the future of weaponry that our forces would face. Traditional models were deemed inadequate due to the subjective and creative nature of the requirement, and the Delphi method was born (Wright, 1999).

The Delphi method attempts to harness the total knowledge of experts in a given field to answer a question. This is accomplished by asking questions, usually in a written

format, in a series of surveys in an attempt to allow the experts to converge on the “correct” answer over the course of 2 or more rounds of questions. The panel members are not usually informed who the other experts are, but the collective panel responses are typically provided back to the participants on each subsequent round of questions. The questions could be open ended, such as “what are the most important factors in the next 10 years impacting market prices?”, or very specific such as “what will be the high for the Dow Jones Industrial Average for 2014?”

An important aspect of the Delphi method is the selections of panel experts. The quality of a particular study is probably more dependent on this factor than almost any other. Naturally, you would not choose expert elementary teachers to predict financial markets, just as you would not ask business leaders to predict trends in Kindergarten-12th grade education. The value of the method is in harnessing everything that an expert knows about a particular subject into the target prediction. If the expert doesn’t know very much about the topic, his value to the study is probably minimal.

The problem of predicting the success of reorganization is uniquely suited to the Delphi method. While it is true that a basic cost-benefit analysis of reorganization may yield valuable insight, it is difficult to quantify the many subjective variables that contribute to success or failure. You could conceivably estimate savings in manpower and personnel but completely underestimate or even ignore the disruption to operations or the impact to morale, or the relationship with the local community, all of which are very difficult to quantify in a single model. One way to take into account all of those variables is to ask a panel of experts as in a Delphi study.

In the case of our AMC-led Joint bases, there are a number of current and former senior leaders who have in-depth knowledge of how our Joint bases are working who could be utilized as panel members to answer reorganization questions. The advantage of the

Delphi method is that it allows the panel members to capitalize on the inputs of their fellow panel members on each successive round of the survey. For instance, in round one, one could collect a list of factors that predict how well host-wing services are provided from the panel. Then, on a second iteration of the survey, that list could be shared with the panel members with a request to rank order those factors by level of importance. By collecting data that represents senior leader collective consensus on these highly qualitative questions, there should be actionable knowledge for decision makers.

A reorganization of our Air Base Wings into our mission wings on Air Mobility Command-led Joint bases is a significant change that would require approval at the Office of Secretary of Defense and perhaps even congressional approval. Naturally, the results of a Delphi study would not be conclusive, they would only be utilized as one of several tools required to show that reorganization is necessary or desirable. Ideally, the results of a Delphi study would show that the expert panel converged on a conclusion either for or against combining the Air Base Wing with the active duty flying wing. The least desirable result of the work would be to have the panel converge on a solution that is inconclusive because the primary question would not have been answered. Follow-on work that could be evaluated given a successful first study might be to evaluate other reorganization options, such as combining the Contingency Response Wing with the mission wing at Joint Base McGuire-Dix-Lakehurst, or realigning the mission wings under the Expeditionary Center at our Air Mobility Command-led Joint bases. In any capacity, what is clear is that the Delphi study is a reasonable option to predict the success of reorganization options in the United States Air Force.

The Likert Scale

The Likert type scale was developed by psychologist Rensis Likert and originally published in 1932 (Likert, 1932). The Likert scale is commonly used to measure attitude,

providing a range of responses to a given question or statement (Jamieson, 2004). A common version of this scale is the 5-step scale from strongly agree, agree, neither agree or disagree, disagree and strongly disagree. Though, any number of variations exists across the literature including 7 and 9 step scales.

The analysis of these scaling techniques is also a matter that requires attention. The Likert Scale is ordinal in that the steps have a natural order from highest to lowest, but it may not be assumed that the distance between the steps is equal. Methodological and statistics texts are clear that for ordinal data one should employ the median or mode as the measure of central tendency because the arithmetical manipulations that require calculating the mean (and standard deviation) are inappropriate for ordinal data (Jamieson, 2004). That being said, as a tool to help the reader better understand the data, the mean and standard deviation have been included in the results of this research to better understand the subtle differences between the degree to which responses were agreed with or disagreed with.

Kendall's W

The degree to which a group of people who have used their subjective judgment to rank order a list agree or disagree is known as the problem of “n” objects ranked by “m” persons (M. G. Kendall, 1939). In this study, Delphi panel members were asked to rank order a list of statements having to do with the consolidation of the ABW with AMW or AW in order of importance from greatest to least. To quantify how much the panel members agree, we can employ Kendall's W (M. G. Kendall, 1939). Perfect concordance would be indicated by a Kendall's W of 1.0 and perfect disagreement would be indicated by a Kendall's W of 0.

To calculate Kendall's W, the following equations were used. The first (equation 1) is the overall test statistic. Where W is the Kendall's W.

$$W = \frac{12S}{m^2(n^3 - n)}. \quad (1)$$

S is the sum of the squared deviations expressed in equation 2.

$$S = \sum_{i=1}^n (R_i - \bar{R})^2, \quad (2)$$

R bar is defined in equation 3.

$$\bar{R} = \frac{1}{2}m(n + 1). \quad (3)$$

R is the ranking given by each of the judges, shown in equation 4.

$$R_i = \sum_{j=1}^m r_{i,j}, \quad (4)$$

Finally, an overall interpretation of Kendall's W is shown in Table 1. This criterion was used to interpret the results of this Delphi study.

Table 1: Interpretation of Kendall's W (Schmidt, 1997)

Interpretation of Kendall's <i>W</i> .		
<i>W</i>	Interpretation	Confidence in Ranks
.1	Very weak agreement	None
.3	Weak agreement	Low
.5	Moderate agreement	Fair
.7	Strong agreement	High
.9	Unusually strong agreement	Very High

Air Force, Army and Navy Installation Management

The Air Force has experimented widely with organizational constructs. However, there are some guiding documents for the organization of Air Force units. According to the AFPD 38-1, there are 7 principal characteristics desirable in an Air Force organization: mission orientation, unambiguous command, decentralization, agility, flexibility, simplicity

and standardization (Air Force Policy Directive 38-1, 2011). Furthermore, in AFI 38-101, the Air Force defines a standard wing as shown in Figure 2 (Air Force Instruction 38-101, 2011).

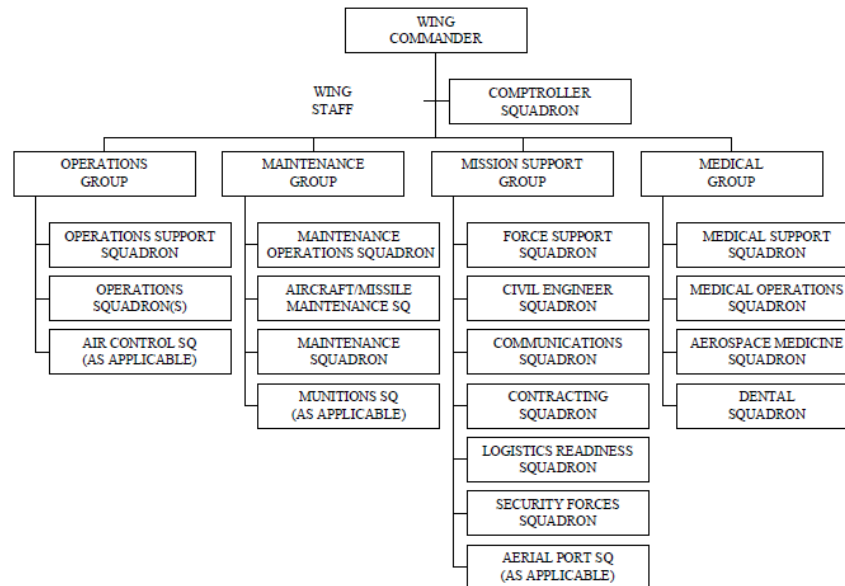


Figure 2: Standard Air Force Wing Construct (Air Force Instruction 38-101, 2011)

This structure is somewhat different than what exists on JBMDL and JBC in Figure 2.

However, AFI 38-101 does acknowledge the existence of this organization structure, though not explicitly in the context of Joint Basing.

The split into separate wings could still be justified within the definitions provided by AFI 38-101, *Air Force Organization*:

- 2.2.6. Wing. ... A wing has a distinct mission with significant scope. A wing is usually composed of a primary mission group (e.g., operations, training) and the necessary supporting groups. By pulling together the mission and support elements, a wing provides a significant capability under a single commander. It is often responsible for maintaining the installation.
- 2.2.6.1. Operational Wing. A wing that has an operations group and related operational mission activity assigned to it. When an operational wing performs the primary mission of the base, it usually maintains and operates the base. In addition, an operational wing is capable of self-support in functional areas like maintenance, supply and conventional munitions, as needed. When an operational wing is a tenant organization, the host organization provides it with varying degrees of base and logistics support.

- 2.2.6.2. Air Base Wing. A wing that performs a support rather than an operational mission. It maintains and operates a base.

However, critics of the bifurcated wing describe several objections. When faced with a similar organizational construct at Ramstein AB in 2008, the 86th Airlift Wing argued their difficulties in a white paper titled Ramstein AB Operations Support. This initiative to combine the wings at Ramstein was ultimately successful, creating the 86th AW we see today. A key paragraph from that work is presented below and is reminiscent of the construct at JBMDL and JBC and the complaints of critics.

If examined from the viewpoint that the 86 AW and the 435 ABW share responsibilities on the same base rather than a host wing supporting a tenant wing (with both wings reporting to the same chain of command), the ‘functional grouping’ organizational principle is violated. Not one, but two individuals are in charge. Natural divisions of work do not always exist, especially in those areas with overlapping responsibilities (e.g. XP, Safety, Inspections). Likewise, “where responsibility begins and ends” is at times difficult to clearly define (e.g. exercises with an operational aspect, an accident involving both aircraft and ground vehicles, base ORE/ORIs). Likewise, the ‘lean organizational structure’ principle is violated. Both wings, however internally optimized, often perform parallel and/or duplicate tasks. Rather than encouraging “rapid decision making,” the current two wing structure necessitates extensive additional coordination and staffing (86th Airlift Wing, 2008).

Finally, it is noteworthy to include reference to Air Force Doctrine Document 1 describing the Unity of Command as a basic principle of war:

Airpower’s operational-level perspective calls for unity of command to gain the most effective and efficient application. Coordination may be achieved by cooperation; it is, however, best achieved by vesting a single commander with the authority and the capability to direct all force employment in pursuit of a common objective (Air Force Doctrine Document 1, 2011).

The US Army and US Navy, in contrast, have embraced a uniform, functionally organized Installation Command Organization (Resty, 2003). In an effort to standardize installation management across the enterprise and search for efficiencies, the services created a centralized command to manage all US Army and US Navy installations. In the

Army's case, this command is divided into four regions as shown in Figure 3. In this sense, the Army and Navy have done what the Air Force is doing on Joint Bases. That is, they have separated installation management from the operational units at each of the installations and Major Commands.



Figure 3: US Army Installation Command Regions (US Army, 2014)

More specifically, Army-led Joint Bases are aligned under this US Army Installation Command as shown in Figure 4: US Army Joint Base Organization (US Army, 2014). In this example, Joint Base Lewis-McChord is depicted under the assigned command of US Army Installation Management Command (IMCOM) with the verbiage of Operational Direction from the Installation Commander.

This construct is similar to the relationship shown at the US Army Joint Base installation, but with slightly more detail indicating which service is responsible for certain functions at this particular facility. The conclusion here is that this functionally organized installation control system is operational in both the US Army and US Navy and at the time of this study, there are no indications that they intend to reorganize.

III. Methodology

General Delphi Methodology

As discussed in Chapter II, there are varying models for a Delphi study. However, for the purposes of this research, a three round study was deemed sufficient and feasible in the allotted time. The first round began with open ended questions designed to allow the panel to identify the most critical issues relevant to answering the research question. The second round asked the panel to evaluate the ideas generated in round one. The third and final round asks the panel to review their responses from round two given the collective responses of their fellow panel members and gives them the opportunity to reconsider their answers in light of this additional information.

Panel Selection

The overall validity of a Delphi study may be more dependent on the quality and participation of the panel members than any other variable, though this has been disputed (Wright, 1999). That being said, if you believe in the quality of the panel, then you may, perhaps, be more willing to believe the results of the research. The factors used to select panel members were knowledge of the subject, and willingness to participate. Panel selection was undertaken carefully in a deliberate attempt to avoid a panel biased in any particular direction.

The first criterion for panel member selection was experience or expertise in the current Air Force-led Joint Basing construct. All 23 panel members invited to participate were either current or former Air Force, Army, Navy or Marine commanders or vice-commanders at either Joint Base McGuire-Dix-Lakehurst or Joint Base Charleston. However, no importance was given to how long any of the panel members had been serving at the Joint Bases. A review of the panel member records reveals that two members have been serving in their current positions for less than 6 months at the start of

this study. For the purposes of this research, at least 3 months of experience is accepted as sufficient experience to create a valid opinion. All of the panel members meet this criterion.

The second criterion for panel member selection was the type of experience at the Joint Base. Type of experience for the purpose of this study is classified into three categories: experience as a member of an Air Base Wing, experience as a member of an Active Duty operational flying wing, and other. For the purposes of avoiding panel bias, members with experience at an Air Base Wing were assumed to be in favor of maintaining the Air Base Wing construct. Panel members with experience at an Active Duty operational flying wing are assumed to be in favor of consolidating the Air Base Wing with their flying wing. And finally, all other panel members are assumed to be neutral or random in their views about the Air Base Wing. The “other” category includes Air Force, Army, Marine and Navy tenant units on the Joint Base such as the Contingency Response Wing, Reserve Air Mobility Wing and Army Support Activity. The target panel composition was one third Air Base Wing, one third Active Duty operational wing and one third “other”.

Round One Questionnaire

After identifying target panel members, questions were drafted for the first round of this Delphi questionnaire. The intent of this first round questionnaire was to allow the panel members to identify the issues most critical to answering the research questions without being constrained by any preconceived or possibly biased questions. Overall five questions were created. The five questions were then tested on a test-panel made up of four officers with experience in mobility on a Joint Base. Four of four test-panel members reviewed and answered the questions and gave minor suggestions about the questions and how to improve them.

The final questions created for the Round One survey were:

1. What tasks and duties do you believe the Air Base Wing on JB McGuire-Dix-Lakehurst or JB Charleston does inherently well?
2. What tasks and duties do you believe the wing responsible for the airfield at JB McGuire-Dix-Lakehurst or JB Charleston does inherently well?
3. List or describe the potential positives or ancillary advantages of combining the Air Base Wing with the airfield wing on JB McGuire-Dix-Lakehurst or JB Charleston.
4. List or describe the potential negatives or unintended consequences of combining the Air Base Wing with the airfield wing on JB McGuire-Dix-Lakehurst or JB Charleston.
5. Do you believe combining the Air Base Wing with the airfield wing on JB McGuire-Dix-Lakehurst or JB Charleston would be more efficient, effective, neither or a combination of both? Please Expound.

A complete example of the Round One questionnaire is included in Appendix A. Round One Questionnaire.

For Round One, panel members were given approximately two weeks to respond to the survey, of which 12 of the 23 requested panel members were able to complete in the allotted time. The remaining 11 members were contacted via email and phone to enquire about their willingness to participate in the study. In all, 17 of the 20 panel members responded to this survey request.

To compile the data, the researcher reviewed each of the round one survey responses to create a list of the ideas expressed by the panel in response to each question. This summary, in some cases, required subjective judgment on the part of the researcher for the purpose of creating a practical list that was short enough to be useable in the second round, but detailed enough to capture the spirit and intent, as much as possible, of each of the panel responses.

Round Two Questionnaire

To create the second round questionnaire, the researcher used the ideas summarized from the Round One questionnaires to present the ideas created by the panel back to the members for their review. The method utilized for their review was the Likert Scale and a rank order methodology. For the first five questions from the round one survey, the panel

members were asked to describe the degree to which they agreed or disagreed with the ideas and concepts collected on a scale of one to five. For the first four questions, additionally, the panel was asked to rank order the relative importance of each of the concepts collected from the first round. The fifth question had such a varied response, that to rank order the concepts was impractical. Finally, an additional question was added to attempt to have the panel members establish a position on their support or opposition for combining the Air Base Wing and Active Duty operational flying wing. In this final question, the panel members were also asked about the degree to which they believed changing the construct of the wing would be material or transparent to all of the other organizations residing on the Joint Base. For each of the questions, there was space provided to collect optional comments for any panel members that wished to submit additional information or explain their reasoning.

An example of the round two questions are summarized below. A complete example of the round two surveys is included in Appendix B. Round Two Questionnaire. It should be noted here that a mistake was made in question #2. In question #1, one of the ideas presented was that a function of the Air Base Wing is to “manage the security of the Joint Base”. This option was omitted from the list of concepts presented in question #2, and the panel members were asked to rank order the importance of each of the responses from 1 to 8, rather than what should have been a rank order of 1 to 9.

1. In round one I asked the panel what tasks and duties do you believe the Air Base Wing on JB McGuire-Dix-Lakehurst or JB Charleston does inherently well and the panel provided the following key areas. Please utilize the Likert Scale to measure whether you agree or disagree with the following statements.

5 = Strongly Agree
 4 = Agree
 3 = Undecided
 2 = Disagree
 1 = Strongly Disagree

The Air Base Wing successfully...

- builds and leads community relationships _____
- synchronizes mission/installation support activities across all services on the base _____

- manages base infrastructure, real property and airspace management _____
- develops a strategic vision for the joint base _____
- manages joint-basing-mandated business processes _____
- leads emergency response/crisis action planning _____
- leads protocol issues for the joint base _____
- leads public affairs issues as the “face” of the joint base _____
- manages the security of the Joint Base _____

Optional-Provide additional comments (agree/disagree/clarify)

2. Additionally, please now rank order the list of tasks and duties from Question #1 from 1 to 8 in terms of importance, with 1 being what you feel is the most important and 8 being the least important.

- builds and leads community relationships _____
- synchronizes mission/installation support activities across all services on the base _____
- manages base infrastructure, real property and airspace management _____
- develops a strategic vision for the joint base _____
- manages joint-basing-mandated business processes _____
- leads emergency response/crisis action planning _____
- leads protocol issues for the joint base _____
- leads public affairs issues as the “face” of the joint base _____
- manages the security of the Joint Base _____

Optional-Provide additional comments (agree/disagree/clarify)

The completed round two survey questions were again tested on a panel of four USAF officers with experience in mobility and Joint Basing. Minor adjustments were made and the survey was distributed back to the same 17 panel members who responded in the first round. Each panel member was again requested to complete the questionnaire in two weeks. After three weeks, 15 of the panel members had submitted responses.

The responses from the second round survey were compiled on an excel document with columns for each response and the question number on each row. At the end of each row a calculation was made for average value, standard deviation, range and median values. This data would later be used in the round 3 survey.

Round Three Questionnaire

The third round questionnaire was an opportunity for the panel members to review their responses from round two in comparison to the responses provided by the other panel members. To create this third and final questionnaire the researcher modified the survey

form from round two. The completed statistics collected from round 2 were meticulously cut and pasted for each respondent back into a customized survey form for each panel member. This provides members with the opportunity to see their response, the panel average, standard deviation, range and median values for the question. Panel members were then asked to reconsider their response after seeing the other panel member's responses and given the opportunity to change their responses or leave their responses the same.

This survey was distributed to each of the 15 panel members who had responded to the Round 2 questionnaire. After three weeks, 14 of the 15 panel members had responded to this third and final survey. The final missing panel member was unavailable due to extensive travel. Due to the overwhelming majority of panel members who did not change their results, this one remaining survey was assumed to remain the same and pulled through as a 3d round survey. To analyze the data, panel responses were used to sort each statement from most agreed with, to least agreed with or from highest importance to least importance. In addition, for the questions where panel members were asked to rank order responses, a Kendall's W statistic was evaluated for these question responses to better understand the degree to which the panel members agree and assess the confidence that could be allotted to the resulting rankings.

IV. Results and Analysis

Delphi Panel Demographics and Participation

The validity of a Delphi study may largely be determined by the validity of the makeup and demographics of the panel being questioned (Wright, 1999). This Delphi study was limited to 20 panel members due to the requirements of survey research in the Air Force Institute of Technology. This academic limitation requires that full survey research with greater than 20 participants must complete a somewhat time consuming process to obtain an approval to conduct a US Air Force survey.

Ensuring that the panel could answer the research question and take into account diverse points of view required some attention to the professional backgrounds of the members. To maintain a balanced panel, the researcher attempted to recruit one third of the panel from primarily Air Base Wing backgrounds, one third from active duty Air Mobility Wing or Airlift Wing backgrounds, and one third from other backgrounds that were relevant such as Army, Navy or Marine tenant units on these Joint Bases or USAF Expeditionary Center or Eighteenth Air Force. Expecting that some requested participants would not respond to the survey, the researcher requested an initial total of 23 panel participants. The resulting demographics over the course of three rounds of research are summarized in Table 2 below. In general, the panel remained fairly consistently balanced with one third of panel members from each of the professional backgrounds.

Table 2: Delphi Panel Demographics

	ABW	AMW/AW	Tenant/Other	Total
Requested	7	6	10	23
Round 1 Participation	5	5	7	17
Round 2 Participation	5	5	5	15
Round 3 Participation	5	5	5	15

Panel participation was generally excellent throughout the three rounds of study. We would normally expect participation rates between 40% and 75% (Gordon, 2009), however for this research panel, participation rates ranged from 74% in Round 1, to 100% in Round 3. Participation rates naturally increased over the course of the three rounds as those panel members who participated in each round were subsequently asked to participate in succeeding rounds. Overall participation is summarized below in Table 3.

Table 3: Delphi Panel Participation

Round #	Requested	Returned	Percent
Round 1	23	17	74%
Round 2	17	15	88%
Round 3	15	15	100%

Question 1

In Question 1, the panel was asked to agree or disagree with a list of tasks that were collected in Round 1 describing the key duties they believe that the Air Base Wing does inherently well. Panel members were then given an opportunity to modify their answers given data about the other panel member's responses. Table 4, below, summarizes the results of all three rounds of this question, and rank orders the responses based on the degree to which the panel agrees or disagrees with each statement from highest agreement to lowest disagreement.

Table 4: Question 1 Results

RANK	AGREE OR DISAGREE WITH TASKS THE ABW DOES INHERENTLY WELL (RANKED FROM HIGHEST TO LOWEST AGREEMENT) SAMPLE SIZE NOT STATISTICALLY SIGNIFICANT	AGREE	NEUTRAL	DISAGREE	AVG	STD DEV	MED
1	The ABW manages the security of the Joint Base	15	0	0	4.7	0.5	5
2	The ABW manages joint-basing-mandated business processes	14	0	1	4.1	0.7	4
3	The ABW leads emergency response/crisis action planning	12	1	2	4.1	1.0	4
4	The ABW builds and leads community relationships	12	0	3	3.9	1.1	4
5	The ABW synchronizes mission/installation support activities across all services on the base	9	3	3	3.6	1.2	4
6	The ABW develops a strategic vision for the joint base	9	3	3	3.6	1.2	4
7	The ABW manages base infrastructure, real property and airspace management	9	3	3	3.5	1.3	4
8	The ABW leads public affairs issues as the "face" of the joint base	9	2	4	3.5	1.1	4
9	The ABW leads protocol issues for the joint base	8	2	5	3.3	1.2	4

As seen in Table 4, the panel overwhelmingly agreed that the ABW manages the security of the Joint Base and manages joint basing business processes inherently well. There was less agreement that the ABW leads public affairs and protocol issues inherently well, although the overall average for this section was in the 3's on a 1 to 5 scale and the median score was 4 out of 5 for both.

Question 2

In Question 2, panel members were asked to rank order the list of tasks that the ABW does inherently well that was generated in Round 1 in order of importance. The tasks were ranked from 1 to 9 with task #1 being the most important and task #9 being the least important. It should be noted here, that in Round 2, the task “manages the security of the Joint Base” was inadvertently omitted from the list of tasks to be ranked. This mistake was acknowledged in the third round questionnaire and the panel members were given an opportunity to renumber the tasks including the missing task. The resulting list is summarized below in Table 5.

Table 5: Question 2 Results

RANK	RANK THE TASKS THAT THE ABW DOES INHERENTLY WELL IN ORDER OF IMPORTANCE (RANKED FROM MOST IMPORTANT TO LEAST IMPORTANT) KENDALL'S W = .58, MODERATE AGREEMENT, FAIR CONFIDENCE	AVG	STD DEV	MED
1	The ABW synchronizes mission/installation support activities across all services on the base	2.6	1.9	2
2	The ABW leads emergency response/crisis action planning	2.7	1.5	3
3	The ABW manages base infrastructure, real property and airspace management	3.2	1.7	3
4	The ABW manages the security of the Joint Base	3.1	1.0	3.5
5	The ABW develops a strategic vision for the joint base	4.6	2.1	5
6	The ABW builds and leads community relationships	5.7	2.1	6
7	The ABW manages joint-basing-mandated business processes	6.3	2.2	6
8	The ABW leads public affairs issues as the “face” of the joint base	6.8	1.4	7
9	The ABW leads protocol issues for the joint base	7.3	1.5	8

In overall ranking of importance, the panel found moderate agreement with a Kendall's W rating of .58 giving us fair confidence in the accuracy of the ranking of the concepts. Not surprisingly, the panel found that the most important task that the ABW performs is the synchronization of mission and installation support activities across all

services on the base. The least important tasks that the ABW performs, according to the panel, are public affairs and protocol host functions for the joint base.

Question 3

In Question 3, the panel was asked to agree or disagree with a list of tasks that were collected in Round 1 describing the key duties they believe that the Air Mobility Wing or Airlift Wing does inherently well. Panel members were then given an opportunity to modify their answers given data about the other panel member's responses. Table 6: Question 3 Results, below, summarizes the results of all three rounds of this question, and rank orders the responses based on the degree to which the panel agrees or disagrees with each statement from highest agreement to lowest disagreement.

Table 6: Question 3 Results

RANK	AGREE OR DISAGREE WITH TASKS THE AMW/AW DOES INHERENTLY WELL (RANKED FROM HIGHEST AGREEMENT TO LOWEST) SAMPLE SIZE NOT STATISTICALLY SIGNIFICANT	AGREE	NEUTRAL	DISAGREE	AVG	STD DEV	MED
1	The AMW/AW provides operational capability to the COCOMs	15	0	0	4.9	0.3	5
2	The AMW/AW safely executes the flying mission	15	0	0	4.9	0.3	5
3	The AMW/AW manages airspace issues for the base	15	0	0	4.8	0.4	5
4	The AMW/AW provides focused career development for rated officers	13	2	0	4.3	0.7	4
5	The AMW/AW integrates/balances air ops priorities between mission partners	12	3	0	4.2	0.8	4
6	The AMW/AW coordinates snow removal	11	0	3	3.6	1.2	4

As shown in Table 6, the panel agrees that the AMW or AW does several things well. At the top of the list, these organizations provide operational capability to the COCOMs, and safely execute the flying mission. The task that the panel agreed with least was snow removal. Several panel members commented that this task was unique to JB MDL and not a factor at JB Charleston, probably contributing to the lowest ranking of agreement.

Question 4

In Question 4, panel members were asked to rank order the list of tasks that the AMW or AW does inherently well that was generated in Round 1, in order of importance.

The tasks were ranked from 1 to 6 with task #1 being the most important and task #6 being the least important. The resulting list is summarized below in Table 7.

Table 7: Question 4 Results

RANK	RANK THE TASKS THAT THE AMW/AW DOES INHERENTLY WELL IN ORDER OF IMPORTANCE (RANKED FROM MOST IMPORTANT TO LEAST IMPORTANT) KENDALL'S W = .75, STRONG AGREEMENT, HIGH CONFIDENCE	AVG	STD DEV	MED
1	The AMW/AW provides operational capability to the COCOMs	1.4	0.6	1
2	The AMW/AW safely executes the flying mission	1.7	0.5	2
3	The AMW/AW manages airspace issues for the base	3.3	0.9	3
4	The AMW/AW integrates/balances air ops priorities between mission partners	4.1	0.6	4
5	The AMW/AW provides focused career development for rated officers	4.7	1.0	5
6	The AMW/AW coordinates snow removal	5.9	0.4	6

In this question, the panel came to the strongest consensus of any rank-order question in the study. The overall Kendall's W score was .75 indicating strong agreement and allowing us to have high confidence in the accuracy of the ratings. The panel largely agreed that providing operational capability to the COCOMs was the most important task that the AMW/AW completes. Much like Question 3, the panel ranked coordinating snow removal as the least important task of the AMW/AW. The reason for this was also probably because removing snow was unique to JB MDL versus JB Charleston.

Question 5

In Question 5, the panel was asked to agree or disagree with a list of statements that were collected in Round 1 describing the potential benefits of consolidating the ABW with the AMW/AW at JBMDL and JBC. Panel members were then given an opportunity to modify their answers given data about the other panel member's responses. Table 8: Question 5 Results, below, summarizes the results of all three rounds of this question, and rank orders the responses based on the degree to which the panel agrees or disagrees with each statement from highest agreement to lowest disagreement.

Table 8: Question 5 Results

RANK	AGREE OR DISAGREE WITH POTENTIAL BENEFITS OF CONSOLIDATION (RANKED FROM HIGHEST AGREEMENT TO LOWEST) SAMPLE SIZE NOT STATISTICALLY SIGNIFICANT	AGREE	NEUTRAL	DISAGREE	AVG	STD DEV	MED
1	Consolidation could reduce a handful of O-6 billets, plus some administrative/executive positions	14	1	0	4.5	0.6	5
2	Consolidation could better align the base with “traditional” wing structures in the AF	13	1	1	4.5	0.9	5
3	Consolidation could provide Air Force unity of command/unity of effort/clear chain of command	12	1	2	4.3	1.1	5
4	Consolidation could reduce coordinating officials/agencies for staffing/resource allocation	11	3	1	4.1	1.0	4
5	Consolidation could streamline “installation commander” legal authority for discharges/waivers/AFI’s	11	2	2	4.0	1.1	4
6	Consolidation could eliminate the requirement of the Expeditionary Center as a NAF-type function	11	1	3	3.6	1.3	4
7	Consolidation could improve staff support to the AMW/AW (PA/Protocol/JAG)	10	2	3	3.9	1.2	4
8	Consolidation could improve mission priority for infrastructure, MILCON, repair and refurbishment	9	2	4	3.8	1.3	4
9	Consolidation could reduce confusion amongst community and Joint Base airmen about who is in charge	9	1	5	3.6	1.5	4
10	Consolidation could provide unity of purpose for all Air Force personnel on the Joint Base	8	5	2	3.7	1.2	4
11	Consolidation could reduce leader ego management/posturing and disagreements on base priorities	8	2	5	3.5	1.4	4

As seen in Table 8, the panel most agreed that consolidating the ABW with the AMW/AW would result in reducing a handful of O-6 billets, plus some administrative/executive positions and better align the base with “traditional” wing structures in the Air Force. The panel had least agreement with the statements that consolidating the wings would reduce leader ego management, provide unity of purpose for all Air Force personnel and reduce confusion about who is in charge. It is not clear why the panel members tended to agree less with the statement about unity of purpose for all Air Force personnel and more with the statement about unity of command/unity of effort/clear chain of command.

Question 6

In Question 6, panel members were asked to rank order the list of potential benefits of consolidation that was generated in Round 1, in order of importance. The potential benefits were ranked from 1 to 11 with benefit #1 being the most important and benefit #11 being the least important. The resulting list is summarized below in Table 9: Question 6 Results, below.

Table 9: Question 6 Results

RANK	RANK THE POTENTIAL BENEFITS OF CONSOLIDATION IN ORDER OF IMPORTANCE (RANKED FROM MOST IMPORTANT TO LEAST IMPORTANT) KENDALL'S W = .40, WEAK/MODERATE AGREEMENT, LOW/FAIR CONFIDENCE	AVG	STD DEV	MED
1	Consolidation could provide Air Force unity of command/unity of effort/clear chain of command	2.3	1.5	2
2	Consolidation could improve mission priority for infrastructure, MILCON, repair and refurbishment	3.7	2.8	3
3	Consolidation could reduce coordinating officials/agencies for staffing/resource allocation	4.3	2.3	4
4	Consolidation could provide unity of purpose for all Air Force personnel on the Joint Base	4.7	2.9	4
5	Consolidation could reduce confusion amongst community and Joint Base airmen about who is in charge	5.5	2.4	5
6	Consolidation could streamline "installation commander" legal authority for discharges/waivers/AFI's	6.1	2.0	6
7	Consolidation could improve staff support to the AMW/AW (PA/Protocol/JAG)	6.4	1.9	6
8	Consolidation could better align the base with "traditional" wing structures in the AF	6.8	3.9	8
9	Consolidation could reduce a handful of O-6 billets, plus some administrative/executive positions	8.0	2.7	9
10	Consolidation could eliminate the requirement of the Expeditionary Center as a NAF-type function	8.9	1.7	9
11	Consolidation could reduce leader ego management/posturing and disagreements on base priorities	8.8	2.3	10

The rankings in this question showed weak to moderate agreement with an overall Kendall W score of .40. This result gives us low to fair confidence in the accuracy of these rankings. As seen in Table 9, the most important potential benefits of consolidation are uniformity of command/unity of effort/clear chain of command, priority of infrastructure spending and reducing coordination. The least important potential benefits are reducing billets, eliminating the Expeditionary Center as a Numbered Air Force function and reduction of leader ego management.

Question 7

In Question 7, the panel was asked to agree or disagree with a list of statements that were collected in Round 1 describing the potential unintended consequences of consolidating the ABW with the AMW/AW at JBMDL and JBC. Panel members were then given an opportunity to modify their answers in Round 3 given data about the other panel member's responses. Table 10, below, summarizes the results of all three rounds of this question, and rank orders the responses based on the degree to which the panel agrees or disagrees with each statement from highest agreement to highest disagreement.

Table 10: Question 7 Results

RANK	AGREE OR DISAGREE WITH POTENTIAL UNINTENDED CONSEQUENCES OF CONSOLIDATION (RANKED FROM HIGHEST AGREEMENT TO LOWEST) SAMPLE SIZE NOT STATISTICALLY SIGNIFICANT	AGREE	NEUTRAL	DISAGREE	AVG	STD DEV	MED
1	Consolidation could create a “perceived” diminished focus on mission partners (as distinct from actual reduced focus)	10	3	2	3.5	0.9	4
2	Consolidation could reduce wing command billets for non-rated officers	9	3	3	3.5	1.4	4
3	Consolidation could create a problem with non-Air-Force Deputies not having the legal authority to make aircraft decisions	6	7	2	3.5	1.2	3
4	Consolidation could increase span of control, volume, tempo beyond a reasonable capacity for a single commander	5	1	9	2.7	1.4	2
5	Consolidation could diminish actual focus on non-Air Force mission partners on the Joint Base	4	2	9	2.6	1.0	2
6	Consolidation could dilute focus on operational mission generation and execution	3	3	9	2.5	1.2	2

As shown in Table 10, the panel showed highest agreement with the statement that consolidation could create a “perceived” diminished focus on mission partners. It should be noted that the overall average agreement with these statement was 3.5 with a median value of 4, which is a somewhat lower agreement level than we see in early questions. The statements that the panel tended to disagree with is that consolidation could dilute focus on operational mission generation and execution as well as diminished actual focus on non-Air Force mission partners on the Joint Base.

Question 8

In Question 8, panel members were asked to rank order the list of unintended consequences of consolidation that was generated in Round 1, in order of importance. The potential benefits were ranked from 1 to 6 with benefit #1 being the most important and consequence and #6 being the least important. The resulting list is summarized below in Table 11.

Table 11: Question 8 Results

RANK	RANK THE POTENTIAL UNINTENDED CONSEQUENCES OF CONSOLIDATION IN ORDER OF IMPORTANCE (RANKED FROM MOST IMPORTANT TO LEAST IMPORTANT) KENDALL'S W = .53, MODERATE AGREEMENT, FAIR CONFIDENCE	AVG	STD DEV	MED
1	Consolidation could diminish actual focus on non-Air Force mission partners on the Joint Base	2.3	1.2	2
2	Consolidation could increase span of control, volume, tempo beyond a reasonable capacity for a single commander	2.5	1.4	2
3	Consolidation could dilute focus on operational mission generation and execution	2.5	1.4	2
4	Consolidation could create a “perceived” diminished focus on mission partners (as distinct from actual reduced focus)	3.5	1.3	4
5	Consolidation could create a problem with non-Air-Force Deputies not having the legal authority to make aircraft decisions	4.6	1.1	5
6	Consolidation could reduce wing command billets for non-rated officers	5.6	0.6	6

The Kendall’s W level of agreement for these ranking results was .53. This indicates moderate agreement and fair confidence that the ranking is accurate. The panel

identified the potential diminished focus on non-Air Force mission partners and increased span of control beyond reasonable capacity as the two most important concerns about consolidating the wings. The least important potential consequences were the reduction of wing command billets for non-rated officers and the legal authority of non-Air Force deputies to make aircraft decisions.

Question 9

In Question 9, the panel was asked to agree or disagree with a list of statements that were collected in Round 1 describing various thoughts and ideas expressed by panel members with regard to consolidating the ABW with the AMW/AW at JBMDL and JBC. Panel members were then given an opportunity to modify their answers in Round 3, given data about the other panel member responses.

Table 12, below, summarizes the results of all three rounds of this question, and rank orders the responses based on the degree to which the panel agrees or disagrees with each statement from highest agreement to highest disagreement.

Table 12: Question 9 Results

RANK	AGREE OR DISAGREE WITH THOUGHTS EXPRESSED BY OTHER PANEL MEMBERS (RANKED FROM HIGHEST AGREEMENT TO LOWEST) SAMPLE SIZE NOT STATISTICALLY SIGNIFICANT	AGREE	NEUTRAL	DISAGREE	AVG	STD DEV	MED
1	Joint Basing guidance/DOD instructions/regulations are not adequate at this time	14	1	0	4.4	0.6	4
2	There should be a vision for joint inspections/inspection visits to avoid overlapping assessments	13	2	0	4.2	0.7	4
3	Combining the wings would reduce coordination for units who are customers of both wings	12	3	0	4.1	0.7	4
4	Combining the wings would reduce much of the personality/relationship driven friction	10	3	2	3.9	1.1	4
5	Eliminating the “dual” 18 AF/EC chains of command would improve command and control	10	2	3	3.7	1.3	4
6	The current Joint Base construct is not in line with Air Force doctrine	9	2	4	3.5	1.2	4
7	The wings should be combined and maintain a Vice Wing Commander from each service	7	3	5	3.6	1.4	3
8	The wings should be combined and commanded by a Brigadier General	6	3	6	3.2	1.4	3
9	Too many conversations/working groups/meetings have to occur to get things done	5	7	3	3.3	1.0	3
10	Specialization allows focus on particular tasks, improving mission effectiveness	5	5	5	3.0	1.1	3
11	The Joint Base journey is still young and needs more time to overcome service bias/inertia	6	0	9	2.5	1.5	2
12	Combining wings makes sense for the AF but not from the Joint/Interagency perspective	5	1	9	2.7	1.4	2
13	Combining wings would lead to less “joint” mission effectiveness for the base as a whole	5	1	9	2.5	1.5	2
14	Current construct is reasonably efficient while delivering equal/better services compared to past	4	2	9	2.4	1.2	2
15	Combining wings would be short-sighted in pursuit of short-term/minor efficiencies	3	2	10	2.2	1.3	2
16	The benefits of combining wings do not outweigh the turmoil that would be created	3	3	9	2.2	1.2	2

From Table 12, we see some statements that the panel strongly agreed with are that Joint Basing/DoD instructions and regulations are not adequate at this time and that there

should be a vision for joint inspections to avoid overlapping assessments. Meanwhile, areas where the panel most disagreed with the statement were that the benefits of combining the wings do not outweigh the turmoil that would be created and that combining the wings would be short-sighted in pursuit of short-term or minor efficiencies.

Question 10

Question 10 was inserted by the researcher in Round 2 for the purpose of eliciting an overall assessment by each panel member about their recommendation towards either combining or not combining the ABW and AMW/AW. Panel members were asked to use a Likert Scale to either agree or disagree on a scale of 1 to 5 with each of the 4 statements. Round 2 data was collected and summarized, then presented back to the panel in Round 3. The overall results are summarized below in Table 13.

Table 13: Question 10 Results

RANK	AGREE OR DISAGREE WITH OVERALL STATEMENT (RANKED FROM HIGHEST AGREEMENT TO LOWEST) SAMPLE SIZE NOT STATISTICALLY SIGNIFICANT	AGREE	NEUTRAL	DISAGREE	AVG	STD DEV	MED
1	Overall, if it was my decision, I would support combining the two wings at this time	11	0	4	4.0	1.5	5
2	Overall, combining the ABW with the AMW/AW is transparent to outside organizations	9	1	5	3.3	1.2	4
3	Overall, if it was my decision, I would not support combining the two wings at this time	4	0	11	2.0	1.5	1
4	Overall, if it was my decision, I do not know if I would support combining wings at this time	2	1	12	1.8	1.3	1

As shown in Table 13, the panel most agreed with the statement that they would support combining the two wings at this time, with an average score of 4.0, and a median value of 5. The lowest ranked statement was the statement about not being sure if they would support or not support combining the wings. This question was designed to understand how sure each panel member was about the question. The results indicate that most panel members felt strongly that they were sure about the answer to the question.

V. Conclusion and Recommendations

Summary of Research

In this study, 15 Army and Air Force officers from ABW, AMW, AW and tenant units with recent experience at JBMDL and JBC completed three rounds of questionnaires to answer the research question of whether or not the Air Force should consolidate the ABW with the AMW or AW at JBMDL and JBC. The panel found moderate consensus in their answers to several important questions.

The top three most important concerns of the panel or possible unintended consequences of consolidation are:

1. Consolidation could diminish focus on non-Air Force partners on the Joint Base.
2. Consolidation could increase span of control, volume and tempo beyond a reasonable capacity for a single commander.
3. Consolidation could dilute focus on operational mission generation and execution.

These three statements are reasonably representative of the perspectives expressed by the dissenting minority of panel members who did not support consolidation.

The top three most important potential benefits of consolidation are:

1. Consolidation could provide Air Force unity of command, unity of effort and a clear chain of command.
2. Consolidation could improve mission priority for infrastructure, MILCON, repair and refurbishment.
3. Consolidation could reduce coordinating officials, agencies for staffing, resource allocation.

These three statements were also reasonably representative of the perspectives expressed by the panel members who supported consolidation of the wings.

Question #9 in this study was an open-ended forum for panel members to express thoughts that were not captured in the other 9 questions. Several statements garnered wide agreement and strong consensus amongst the panel. The top three statements that the panel most agreed with are:

1. Joint Basing guidance, DoD instructions and regulation are not adequate at this time.
2. There should be a vision for joint inspections and inspection visits to avoid overlapping assessments.
3. Combining the units would reduce coordination for units who are customers of both wings.

Overall, 11 of the 15 panel members who completed all three rounds of the survey supported, at least to some degree, the consolidation of the two wings. Nearly all panel members had little doubt about their preference and tended to either strongly agree, or strongly disagree with the recommendation.

Significance of Research

This Delphi Study was the first known attempt to study the question of consolidation on Joint Bases in a controlled and academic way. The question is not new, having been debated on the Joint Bases in internal organizational discussions since the Air Force created the ABW on Joint Bases in 2008. However, the results should not be used as the sole source of data or justification for reorganization. Rather, this research should be included as part of a larger review of the best way to serve the Joint Base as it exists today.

Even if reorganization is not an immediate course of action, the results of this study may be useful for commanders of the USAF Expeditionary Center, 18th Air Force and the various ABWs, AMWs and AWs under their command to better understand the concerns and limitations of the current construct. The lists of potential benefits of consolidation indicate the areas in which commanders may have concerns that could be addressed. In particular the list of concerns that panel members voiced in question #9 should be of particular interest to commanders at all levels.

Research Limitations

This study is not applicable to the larger question of the success of Joint Basing, only how the Air Force chooses to organize our host responsibilities. Furthermore, this research is not applicable to bases where the Air Force does not have the lead, but where

the Air Force maintains an airfield such as JB Lewis-McChord and JB Pearl Harbor. While those bases present very interesting and tempting questions for our mobility forces, evaluating their success and the implications for our airfields is beyond the scope of this research. Furthermore, this research should not be taken as an analysis of all ABWs. For instance, Grand Forks AFB is organized with an ABW structure, but conclusions from this research should not be applied there because it is not a dual wing organization as created on the Joint Bases.

It is also important to recognize that this is not a statistically significant survey. For a small sample, the minimum sample size is $n = 30$ (McClave, 2011). To maintain the same standard for who to survey may restrict available participants such that finding 30 experts would be difficult. Rather, this study must be understood for what it is, the collective opinions of carefully selected experts. The degree of confidence in the results of this study is largely dependent on the degree of confidence in the participating panel members. For this reason, the raw results of most questions are included in Chapter IV for the reader to better understand how the experts reacted to the various questions. The mean, standard deviation and median values of their responses are posted for informational purposes only.

Finally, it should be acknowledged that the primary researcher in this study has three years of experience working at JB MDL, including one year as an AMW command staff as an executive officer. Naturally, this experience could potentially bias the research and its outcomes. In particular, the results from the Round 1 questionnaires had to be distilled and consolidated into ideas to be presented back to the panel members. This step required the subjective judgment of the researcher. To the extent possible, all reasonable attempts were made to ensure neutrality in the Delphi panel by including ABW and AMW or AW

experts as well as tenant Air Force and Army units, and carefully vetting the survey questions for bias.

Recommendations for Future Research

This Delphi Study explored the reactions of commanders and tenant units on AMC-led Joint Bases at JBMDL and JBC to our current Joint Base management construct. However, the creation of ABWs on AF-led Joint bases was universal to all AF-led Joint Bases. AMC is somewhat unique in their use of these airfields as operational launch installations for support of combatant commander missions. However, the issues that affect these AMC units may very well impact the other Major Commands in a similar way. This Delphi Study method could easily be adapted and replicated in application to Air Combat Command and PACAF-led Joint Bases such as Joint Base Langley-Eustis and Joint Base Elmendorf-Richardson. The replication of this study in application to those bases could potentially validate or invalidate the findings of this study, and give further support to arguments for or against consolidation.

The researcher in this study was asked several times about the inclusion of Joint Base Lewis-McChord, Joint Base Pearl Harbor-Hickam and Ft Bragg, Pope Field. Each of those fields is led by a service other than the Air Force (Ft Bragg is not a Joint Base) and is constructed in a different way. However, this same methodology could be used to explore what is working well and what could be improved on each of those installations, both from the perspective of the host service and the tenant units. It is conceivable that dialogue may be difficult between services at installations such as these, but the Delphi Study provides a neutral and balanced context for exploring issues between senior level commanders.

Finally, while this study was not a statistically significant sample because it was less than 30 people, a study of at least that size and scope could be another viable opportunity to further explore the topic. Due to the lack of Colonels who have commanded

in the Joint Base environment, it may be difficult to find more than 30 individuals willing to participate meeting those qualifications. However, if the available pool were expanded to include Group Commanders and perhaps some senior government civilians, 30 or more panel members with senior-level joint base experience may be possible.

Conclusion

Inevitably, supporters of consolidation will use the results of this study to support the argument for returning the ABW components to the active duty mission wing in a configuration that is comfortable and familiar. However, particular attention should be paid to the concerns of the panel members of this study who did not support consolidation. Their rationale and individual recommendations come from well-informed positions. Their voice is best expressed in questions #7 and 8 where there is a discussion of the unintended consequences of consolidation. Furthermore, if consolidation were to occur, the revised and reconstructed wing would indeed look slightly different than the traditional wing that most are familiar with.

Several considerations require the attention of senior commanders if consolidation were to occur, including, but not limited to the inclusion of deputies from tenant services, the implications for succession of command on aircraft authority, and the equities of the resident tenant units. In conclusion, this research indicates that the potential benefits of consolidation would tend to outweigh the potential unintended consequences. Therefore, Air Force senior leaders should investigate the possibility of this reorganization in the near future.

Glossary of Technical Terms

AB	Air Base
ABW	Air Base Wing
ACC	Air Combat Command
AD	Active Duty
AF	Air Force
AFIT	Air Force Institute of Technology
AMC	Air Mobility Command
AMW	Air Mobility Wing
AW	Airlift Wing
BRACC	Base Realignment and Closing Commission
COCO	
M	Combatant Command
DOD	Department of Defense
GRP	Graduate Research Project
JB	Joint Base
JBC	Joint Base Charleston
JBLM	Joint Base Lewis-McChord
JBMDL	Joint Base McGuire-Dix-Lakehurst
NAF	Numbered Air Force
ORE	Operational Readiness Evaluation
ORI	Operational Readiness Inspection
OSD	Office of the Secretary of Defense
PACAF	Pacific Air Force
USAF	United States Air Force
XP	Plans and Programs

Appendix A. Round One Questionnaire

Questionnaire #1: Initial Survey

The Future Construct of Air Base Wings on Air Mobility Command Joint Bases

You are receiving this questionnaire as a Joint Basing expert, Air Force Senior leader or direct customer of an Air Force Air Base Wing on a Joint Base. *The purpose of this research is to conduct a qualitative study in an effort to ascertain the efficiency and effectiveness of this construct.* By responding, **you have the unique opportunity to influence and shape the future of the Air Force Joint Base organizational construct.**

Background: Because each respondent will have a different perspective, here is a brief overview of the study topic.

Air Mobility Command and Headquarters Air Force are examining options for how to streamline organizations, save money and save manpower in the context of reduced budgets and sequestration. One such option is to consolidate the Air Base Wing and Air Mobility or Airlift Wing at Joint base McGuire-Dix-Lakehurst and Joint Base Charleston. There are some possible efficiencies and challenges with combining these organizations; however, the combined wing would resemble the traditional Air Force wing model that exists at most Air Force installations. What is unique about this proposal is that an Air Force traditional wing model has never been applied to an Air Force-led Joint Base.

The data obtained through this study will form recommendations that will be offered to decision makers at HQ Air Mobility Command and Air Force Headquarters in order to shape reorganization options. This is not just a typical survey, but rather a Delphi study. The reason I chose a Delphi study is because this research problem does not lend itself to a simple survey. The proposed consolidation is a broad and complex problem which represents numerous unique challenges and concerns across the DOD authority, Joint services, and civilian leadership. The impact of wing consolidation cannot be reduced to a single metric. The Delphi method is an iterative, group communication process which is used to collect and distill the judgments of experts using a series of questionnaires interspersed with group feedback. You as a panel member embody diverse backgrounds with respect to experience and expertise. It is through these backgrounds combined with the iterative Delphi study, I plan to answer the research question.

Thank you for participating in this research study. I truly value and appreciate your time and candid responses.

Please note the following:

Benefits and risks: There are no personal benefits or risks for participating in this study. Your participation in completing this questionnaire should take less than 30 minutes per round.

Confidentiality: Questionnaire responses are confidential. Your identity will not be associated with any responses you give in the final research report. No individual data will be reported; only data in aggregate will be made public. I understand that the names and associated data I collect must be protected at all times, only be known to the researcher, and managed according to the Air Force Institute of Technology (AFIT) interview protocol. At the conclusion of the study, all data will be turned over to the advisor and all other copies will be destroyed.

Voluntary consent: Your participation in this study is completely voluntary. You have the right to decline to answer any question, to refuse to participate or to withdraw at any time. Your decision of whether or not to participate will not result in any penalty or loss of benefits to which you are otherwise entitled. Completion of the questionnaire implies your consent to participate.

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The sponsor for this research is Ms. Kimberly Corcoran, the Director of Staff at the United States Air Force Expeditionary Center at Joint Base McGuire-Dix-Lakehurst, New Jersey.

Process:

1. Please complete this survey **electronically** and return it to: **mason.macgarvey@us.af.mil** no later than **Wednesday 18 December 2013**. If you have questions, I can be reached at CELL 910-723-3072 or via DSN 650-7320.

2. This questionnaire is an instrument of a Delphi study. The questionnaires are designed to focus on problems, opportunities, solutions or forecasts. Each questionnaire is developed based on the group results of the previous questionnaire. The process continues until the research question is ultimately answered. For example, when consensus is reached or sufficient information has been exchanged. This on average takes three to four rounds with the panel. There are five research questions for this round. Again, the questionnaire is non-attributional, so please elaborate fully on your answers. Subsequent rounds will be announced as needed and all research will conclude by March 2014.

Research questions:

Please answer the following questions as clearly and concisely as possible without omitting critical information required for the group to consider your opinions. Provide any appropriate rationale for your responses.

1. What tasks and duties do you believe the Air Base Wing on JB McGuire-Dix-Lakehurst or JB Charleston does inherently well?

2. What tasks and duties do you believe the wing responsible for the airfield at JB McGuire-Dix-Lakehurst or JB Charleston does inherently well?

3. List or describe the potential positives or ancillary advantages of combining the Air Base Wing with the airfield wing on JB McGuire-Dix-Lakehurst or JB Charleston.

4. List or describe the potential negatives or unintended consequences of combining the Air Base Wing with the airfield wing on JB McGuire-Dix-Lakehurst or JB Charleston.

5. Do you believe combining the Air Base Wing with the airfield wing on JB McGuire-Dix-Lakehurst or JB Charleston would be more efficient, effective, neither or a combination of both? Please Expound.

Appendix B. Round Two Questionnaire

Questionnaire #2 of 3: Follow-up

The Future Construct of Air Base Wings on Air Mobility Command Joint Bases

You are receiving this questionnaire as a Joint Basing expert, Air Force Senior leader or direct customer of an Air Force Air Base Wing on a Joint Base. *The purpose of this research is to conduct a qualitative study in an effort to ascertain the efficiency and effectiveness of this construct.* There are fewer than 20 experts identified to participate as members of this panel. By responding, **you have the unique opportunity to influence and shape the future of the Air Force Joint Base organizational construct.**

Background: Because each respondent will have a different perspective, here is a brief overview of the study topic.

Air Mobility Command and Headquarters Air Force are examining options for how to streamline organizations, save money and save manpower in the context of reduced budgets and sequestration. One such option is to consolidate the Air Base Wing and Air Mobility or Airlift Wing at Joint Base McGuire-Dix-Lakehurst and Joint Base Charleston. There are some possible efficiencies and challenges with combining these organizations; however, the combined wing would resemble the traditional Air Force wing model that exists at most Air Force installations. What is unique about this proposal is that an Air Force traditional wing model has never been applied to an Air Force-led Joint Base.

The anonymous data obtained through this study will be summarized in an academic research paper and offered to decision makers at HQ Air Mobility Command and Air Force Headquarters in order to shape reorganization options. This is not just a typical survey, but rather a Delphi study. The Delphi method is an iterative, group communication process which is used to collect and distill the judgments of experts using a series of questionnaires interspersed with group feedback. The reason I chose a Delphi study is because this research problem does not lend itself to a simple survey. The proposed consolidation is a broad and complex problem which represents numerous unique challenges and concerns across the DOD authority, Joint services, and civilian leadership. The impact of wing consolidation cannot be reduced to a single metric. Our selected panel members embody diverse backgrounds with respect to experience and expertise. I plan to answer the research question by applying those rich backgrounds via an iterative Delphi study.

Thank you for participating in this research study. I truly value and appreciate your time and candid responses.

Please note the following:

Benefits and risks: There are no personal benefits or risks for participating in this study. Your participation in completing this questionnaire should take less than 30 minutes per round.

Confidentiality: Questionnaire responses are confidential. Your identity will not be associated with any responses you give in the final research report. No individual data will be reported; only data in aggregate will be made public. I understand that the names and associated data I collect must be protected at all times, only be known to the researcher, and managed according to the Air Force Institute of Technology (AFIT) interview protocol. At the conclusion of the study, all data will be turned over to the advisor and all other copies will be destroyed.

Voluntary consent: Your participation in this study is completely voluntary. You have the right to decline to answer any question, to refuse to participate or to withdraw at any time. Your decision of whether or not to participate will not result in any penalty or loss of benefits to which you are otherwise entitled. Completion of the questionnaire implies your consent to participate.

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The sponsor for this research is Ms. Kimberly Corcoran, the Director of Staff at the United States Air Force Expeditionary Center at Joint Base McGuire-Dix-Lakehurst, New Jersey.

Process:

1. Please complete this survey **electronically** and return it to: **mason.macgarvey@us.af.mil** no later than **Monday, 10 March 2014**. If you have questions, I can be reached at CELL 910-723-3072.

2. This questionnaire is an instrument of a Delphi study. The questionnaires are designed to focus on problems, opportunities, solutions or forecasts. Each questionnaire is developed based on the group results of the previous questionnaire. The process continues until the research question is ultimately answered. For example, when consensus is reached or sufficient information has been exchanged. This on average takes three to four rounds with the panel. There are ten research questions for this round. Again, the questionnaire is non-attributional, so please elaborate fully on your answers. The third and final round will be released in late March and all research will conclude by May of 2014.

Research questions:

Please answer the following questions as clearly and concisely as possible without omitting critical information required for the group to consider your opinions. Provide any appropriate rationale for your responses.

1. In round one I asked the panel what tasks and duties do you believe the Air Base Wing on JB McGuire-Dix-Lakehurst or JB Charleston does inherently well and the panel provided the following key areas. Please utilize the Likert Scale to measure whether you agree or disagree with the following statements.

5 = Strongly Agree
 4 = Agree
 3 = Undecided
 2 = Disagree
 1 = Strongly Disagree

The Air Base Wing successfully...

- builds and leads community relationships _____
- synchronizes mission/installation support activities across all services on the base _____
- manages base infrastructure, real property and airspace management _____
- develops a strategic vision for the joint base _____
- manages joint-basing-mandated business processes _____
- leads emergency response/crisis action planning _____
- leads protocol issues for the joint base _____
- leads public affairs issues as the “face” of the joint base _____
- manages the security of the Joint Base _____

Optional-Provide additional comments (agree/disagree/clarify)

2. Additionally, please now rank order the list of tasks and duties from Question #1 from 1 to 8 in terms of importance, with 1 being what you feel is the most important and 8 being the least important.

- builds and leads community relationships _____
- synchronizes mission/installation support activities across all services on the base _____
- manages base infrastructure, real property and airspace management _____
- develops a strategic vision for the joint base _____
- manages joint-basing-mandated business processes _____
- leads emergency response/crisis action planning _____
- leads protocol issues for the joint base _____
- leads public affairs issues as the “face” of the joint base _____

Optional-Provide additional comments (agree/disagree/clarify)

3. In round one I asked the panel what tasks and duties do you believe the 305th Air Mobility Wing and 437th Airlift Wing do inherently well and the panel provided the following key areas. Please utilize the Likert Scale to measure whether you agree or disagree with the following statements.

- 5 = Strongly Agree
- 4 = Agree
- 3 = Undecided
- 2 = Disagree
- 1 = Strongly Disagree

The Active Duty Air Mobility Wing/Airlift Wing successfully...

- provides operational capability to the COCOMs _____
- safely executes the flying mission _____
- provides focused career development for rated officers _____
- integrates/balances air ops priorities between mission partners _____
- manages airspace issues for the base _____
- coordinates snow removal _____

Optional-Provide additional comments (agree/disagree/clarify)

4. Additionally, please now rank order the list of tasks from Question #3 from 1 to 6 in terms of importance, with 1 being what you feel is the most important task and 6 being the least important.

- provides operational capability to the COCOMs _____
- safely executes the flying mission _____
- provides focused career development for rated officers _____
- integrates/balances air ops priorities between mission partners _____
- manages airspace issues for the base _____
- coordinates snow removal _____

Optional-Provide additional comments (agree/disagree/clarify)

5. In round one I asked the panel to list the potential positives or ancillary advantages of combining the 305th Air Mobility Wing or 437th Airlift Wing with their Air Base Wing counterparts and you provided the following list. Please utilize the Likert Scale to gauge whether you agree or disagree with the following statements.

- 5 = Strongly Agree
 4 = Agree
 3 = Undecided
 2 = Disagree
 1 = Strongly Disagree

The ABWs consolidation with the AMW/AW could ...

- improve mission priority for infrastructure, MILCON, repair and refurbishment _____
- reduce coordinating officials/agencies for staffing/resource allocation _____
- reduce leader ego management/posturing and disagreements on base priorities _____
- reduce confusion amongst community and Joint Base airmen about who is in charge _____
- provide Air Force unity of command/unity of effort/clear chain of command _____
- improve staff support to the AMW/AW (PA/Protocol/JAG) _____
- provide unity of purpose for all Air Force personnel on the Joint Base _____
- reduce a handful of O-6 billets, plus some administrative/executive positions _____
- eliminate the requirement of the Expeditionary Center as a NAF-type function _____
- streamline “installation commander” legal authority for discharges/waivers/AFI’s _____
- better align the base with “traditional” wing structures in the AF _____

Optional-Provide additional comments (agree/disagree/clarify)

6. Additionally, please now rank order the list of responses in Question #5 in terms of importance, with 1 being what you feel is the most important advantage and 11 being the least important.

- improve mission priority for infrastructure, MILCON, repair and refurbishment _____
- reduce coordinating officials/agencies for staffing/resource allocation _____
- reduce leader ego management/posturing and disagreements on base priorities _____
- reduce confusion amongst community and Joint Base airmen about who is in charge _____
- provide Air Force unity of command/unity of effort/clear chain of command _____
- improve staff support to the AMW/AW (PA/Protocol/JAG) _____
- provide unity of purpose for all Air Force personnel on the Joint Base _____
- reduce a handful of O-6 billets, plus some administrative/executive positions _____
- eliminate the requirement of the Expeditionary Center as a NAF-type function _____
- streamline “installation commander” legal authority for discharges/waivers/AFI’s _____
- better align the base with “traditional” wing structures in the AF _____

Optional-Provide additional comments (agree/disagree/clarify)

7. In round one I asked the panel to list the potential negatives or unintended consequences of combining the 305th Air Mobility Wing or 437th Airlift Wing with the Air Base Wing and you provided the following list. Please utilize the Likert Scale to gauge whether you agree or disagree with the following statements.

- 5 = Strongly Agree
- 4 = Agree
- 3 = Undecided
- 2 = Disagree
- 1 = Strongly Disagree

The AMW/AW's consolidation with the ABW could...

- diminish actual focus on non-Air Force mission partners on the Joint Base _____
- create a “perceived” diminished focus on mission partners (as distinct from actual reduced focus)_____
- reduce wing command billets for non-rated officers _____
- increase span of control, volume, tempo beyond a reasonable capacity for a single commander _____
- dilute focus on operational mission generation and execution _____
- non-Air-Force Deputies/Vices would not have the legal authority to make aircraft decisions _____

Optional-Provide additional comments (agree/disagree/clarify)

8. Additionally, please now rank order the list of consequences from Questions #7 in terms of importance from 1 to 6, with 1 being what you feel is the most important and 6 being the least important.

- diminish actual focus on non-Air Force mission partners on the Joint Base _____
- create a “perceived” diminished focus on mission partners (as distinct from actual reduced focus)_____
- reduce wing command billets for non-rated officers _____
- increase span of control, volume, tempo beyond a reasonable capacity for a single commander _____
- dilute focus on operational mission generation and execution _____
- non-Air-Force Deputies/Vices would not have the legal authority to make aircraft decisions _____

Optional-Provide additional comments (agree/disagree/clarify)

9. In round one I asked the panel if they believe combining the Air Base Wing with the AMW/AW would be more efficient, effective, neither, or a combination of both. There were many varied answers, some of which are represented below. Please utilize the Likert Scale to gauge whether you agree or disagree with the following statements.

- 5 = Strongly Agree
- 4 = Agree
- 3 = Undecided
- 2 = Disagree
- 1 = Strongly Disagree

- Too many conversations/working groups/meetings have to occur to get things done _____
- The wings should be combined and commanded by a Brigadier General _____
- Combining the wings would reduce much of the personality/relationship driven friction _____
- The wings should be combined and maintain a Vice Wing Commander from each service _____
- Specialization allows focus on particular tasks, improving mission effectiveness _____
- Combining the wings would reduce coordination for units who are customers of both wings _____
- The Joint Base journey is still young and needs more time to overcome service bias/inertia _____
- Joint Basing guidance/DOD instructions/regulations are not adequate at this time _____
- There should be a vision for joint inspections/inspection visits to avoid overlapping assessments _____
- Current construct is reasonably efficient while delivering equal/better services compared to past _____
- Eliminating the “dual” 18 AF/EC chains of command would improve command and control _____
- The current Joint Base construct is not in line with Air Force doctrine _____
- Combining wings would be short-sighted in pursuit of short-term/minor efficiencies _____
- The benefits of combining wings do not outweigh the turmoil that would be created _____
- Combining wings would lead to less “joint” mission effectiveness for the base as a whole _____
- Combining wings makes sense for the AF but not from the Joint/Interagency perspective _____

Optional-Provide additional comments (agree/disagree/clarify)

10. In this final summation question, please utilize the Likert Scale to gauge whether you agree or disagree with the following statements.

- 5 = Strongly Agree
- 4 = Agree
- 3 = Undecided
- 2 = Disagree
- 1 = Strongly Disagree

- Overall, if it was my decision, I would not support combining the two wings at this time _____
- Overall, if it was my decision, I would support combining the two wings at this time _____
- Overall, if it was my decision, I do not know if I would support combining wings at this time _____
- Overall, combining the ABW with the AMW/AW is transparent to outside organizations _____

Optional-Provide additional comments (agree/disagree/clarify)

Appendix C. Round Three Questionnaire

Questionnaire #3 of 3: Final

The Future Construct of Air Base Wings on Air Mobility Command Joint Bases

You are receiving this questionnaire as a Joint Basing expert, Air Force Senior leader or direct customer of an Air Force Air Base Wing on a Joint Base. *The purpose of this research is to conduct a qualitative study in an effort to ascertain the efficiency and effectiveness of this construct.* There are fewer than 20 experts identified to participate as members of this panel. By responding, **you have the unique opportunity to influence and shape the future of the Air Force Joint Base organizational construct.**

Background: Because each respondent will have a different perspective, here is a brief overview of the study topic.

Air Mobility Command and Headquarters Air Force are examining options for how to streamline organizations, save money and save manpower in the context of reduced budgets and sequestration. One such option is to consolidate the Air Base Wing and Air Mobility or Airlift Wing at Joint Base McGuire-Dix-Lakehurst and Joint Base Charleston. There are some possible efficiencies and challenges with combining these organizations; however, the combined wing would resemble the traditional Air Force wing model that exists at most Air Force installations. What is unique about this proposal is that an Air Force traditional wing model has never been applied to an Air Force-led Joint Base.

The anonymous data obtained through this study will be summarized in an academic research paper and offered to decision makers at HQ Air Mobility Command and Air Force Headquarters in order to shape reorganization options. This is not just a typical survey, but rather a Delphi study. The Delphi method is an iterative, group communication process which is used to collect and distill the judgments of experts using a series of questionnaires interspersed with group feedback. The reason I chose a Delphi study is because this research problem does not lend itself to a simple survey. The proposed consolidation is a broad and complex problem which represents numerous unique challenges and concerns across the DOD authority, Joint services, and civilian leadership. The impact of wing consolidation cannot be reduced to a single metric. Our selected panel members embody diverse backgrounds with respect to experience and expertise. I plan to answer the research question by applying those rich backgrounds via an iterative Delphi study.

Thank you for participating in this research study. I truly value and appreciate your time and candid responses.

Please note the following:

Benefits and risks: There are no personal benefits or risks for participating in this study. Your participation in completing this questionnaire should take less than 30 minutes per round.

Confidentiality: Questionnaire responses are confidential. Your identity will not be associated with any responses you give in the final research report. No individual data will be reported; only data in aggregate will be made public. I understand that the names and associated data I collect must be protected at all times, only be known to the researcher, and managed according to the Air Force Institute of Technology (AFIT) interview protocol. At the conclusion of the study, all data will be turned over to the advisor and all other copies will be destroyed.

Voluntary consent: Your participation in this study is completely voluntary. You have the right to decline to answer any question, to refuse to participate or to withdraw at any time. Your decision of whether or not to participate will not result in any penalty or loss of benefits to which you are otherwise entitled. Completion of the questionnaire implies your consent to participate.

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The sponsor for this research is Ms. Kimberly Corcoran, the Director of Staff at the United States Air Force Expeditionary Center at Joint Base McGuire-Dix-Lakehurst, New Jersey.

Process:

1. Please complete this survey **electronically** and return it to: **mason.macgarvey@us.af.mil** no later than **Wednesday, 30 April 2014**. If you have questions, I can be reached at CELL 910-723-3072.

2. This questionnaire is an instrument of a Delphi study. The questionnaires are designed to focus on problems, opportunities, solutions or forecasts. Each questionnaire is developed based on the group results of the previous questionnaire. The process continues until the research question is ultimately answered. For example, when consensus is reached or sufficient information has been exchanged. This on average takes three to four rounds with the panel. There are ten research questions for this round. Again, the questionnaire is non-attributional, so please elaborate fully on your answers. This is the final round of this research.

Research questions:

Please answer the following questions as clearly and concisely as possible without omitting critical information required for the group to consider your opinions. Provide any appropriate rationale for your responses.

1. In round two I asked the panel what tasks and duties do you believe the Air Base Wing on JB McGuire-Dix-Lakehurst or JB Charleston does inherently well and the panel provided the following responses. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel.

5 = Strongly Agree

4 = Agree

3 = Undecided

2 = Disagree

1 = Strongly Disagree

The Air Base Wing successfully...

- builds and leads community relationships
- synchronizes mission/installation support activities across all services on the base
- manages base infrastructure, real property and airspace management
- develops a strategic vision for the joint base
- manages joint-basing-mandated business processes
- leads emergency response/crisis action planning
- leads protocol issues for the joint base
- leads public affairs issues as the “face” of the joint base
- manages the security of the Joint Base

	AVERAGE	STD DEV	RANGE	MEDIAN
2	3.9	1.1	2 to 5	4
1	3.7	1.2	1 to 5	4
3	3.5	1.3	1 to 5	4
1	3.7	1.3	1 to 5	4
2	4.1	0.7	2 to 5	4
2	4.1	1.1	2 to 5	4
2	3.3	1.2	1 to 5	4
2	3.7	1.1	2 to 5	4
4	4.7	0.5	4 to 5	5

Optional-Provide additional comments (agree/disagree/clarify)

2. Additionally, I asked the panel to rank order the list of tasks and duties from Question #1 from 1 to 8 (this was a mistake because there were actually 9 tasks in question #1. “Manages the security of the Joint Base” was omitted in round two) in terms of importance. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. You may reorder the entire column or you may choose to simply change only an individual ranking line. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel.

- builds and leads community relationships
- synchronizes mission/installation support activities across all services on the base
- manages base infrastructure, real property and airspace management
- develops a strategic vision for the joint base
- manages joint-basing-mandated business processes
- leads emergency response/crisis action planning
- leads protocol issues for the joint base
- leads public affairs issues as the “face” of the joint base
- manages the security of the Joint Base

	AVERAGE	STD DEV	RANGE	MEDIAN
6	5.3	2.0	2 to 8	5
1	2.5	1.8	1 to 6	2
2	3.0	1.7	1 to 8	2
4	4.2	2.0	1 to 8	4
5	5.9	2.1	1 to 8	6
3	2.5	1.4	1 to 5	3
8	6.9	1.3	5 to 8	7
7	6.4	1.2	3 to 8	7
	3.5	0.7	3 to 4	3.5

Optional-Provide additional comments (agree/disagree/clarify)

3. In round two I asked the panel what tasks and duties do you believe the 305th Air Mobility Wing and 437th Airlift Wing do inherently well and the panel provided the following responses. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel

5 = Strongly Agree

4 = Agree

3 = Undecided

2 = Disagree

1 = Strongly Disagree

The Active Duty Air Mobility Wing/Airlift Wing successfully...

- _____ provides operational capability to the COCOMs
- _____ safely executes the flying mission
- _____ provides focused career development for rated officers
- _____ integrates/balances air ops priorities between mission partners
- _____ manages airspace issues for the base
- _____ coordinates snow removal

	AVERAGE	STD DEV	RANGE	MEDIAN
_____ 4	4.9	0.3	4 to 5	5
_____ 4	4.9	0.3	4 to 5	5
_____ 4	4.3	0.7	3 to 5	4
_____ 3	4.2	0.8	3 to 5	4
_____ 4	4.8	0.4	4 to 5	5
_____ 4	3.6	1.2	1 to 5	4

Optional-Provide additional comments (agree/disagree/clarify)

4. Additionally, in round two, I asked the panel to rank order the list of tasks from Question #3 from 1 to 6 in terms of importance, with 1 being what you feel is the most important task and 6 being the least important. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. You may reorder the entire column or you may choose to simply change only an individual ranking line. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel.

- _____ 1 provides operational capability to the COCOMs
- _____ 2 safely executes the flying mission
- _____ 5 provides focused career development for rated officers
- _____ 4 integrates/balances air ops priorities between mission partners
- _____ 3 manages airspace issues for the base
- _____ 6 coordinates snow removal

	AVERAGE	STD DEV	RANGE	MEDIAN
_____ 1	1.3	0.5	1 to 2	1
_____ 2	1.8	0.6	1 to 3	2
_____ 5	4.6	0.9	3 to 6	5
_____ 4	4.1	0.6	3 to 5	4
_____ 3	3.3	0.7	2 to 4	3
_____ 6	5.9	0.3	5 to 6	6

Optional-Provide additional comments (agree/disagree/clarify)

5. In round two, I asked the panel to list the potential positives or ancillary advantages of combining the 305th Air Mobility Wing or 437th Airlift Wing with their Air Base Wing counterparts and you provided the following responses. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel.

5 = Strongly Agree
 4 = Agree
 3 = Undecided
 2 = Disagree
 1 = Strongly Disagree

The ABWs consolidation with the AMW/AW could ...

		AVERAGE	STD DEV	RANGE	MEDIAN
▪ improve mission priority for infrastructure, MILCON, repair and refurbishment	5	3.8	1.3	2 to 5	4
▪ reduce coordinating officials/agencies for staffing/resource allocation	4	4.1	1.1	2 to 5	4
▪ reduce leader ego management/posturing and disagreements on base priorities	4	3.5	1.4	1 to 5	4
▪ reduce confusion amongst community and Joint Base airmen about who is in charge	5	3.6	1.5	1 to 5	4
▪ provide Air Force unity of command/unity of effort/clear chain of command	5	4.3	1.1	2 to 5	5
▪ improve staff support to the AMW/AW (PA/Protocol/JAG)	4	3.9	1.2	2 to 5	4
▪ provide unity of purpose for all Air Force personnel on the Joint Base	5	3.7	1.2	1 to 5	4
▪ reduce a handful of O-6 billets, plus some administrative/executive positions	5	4.5	0.6	3 to 5	5
▪ eliminate the requirement of the Expeditionary Center as a NAF-type function	5	3.6	1.3	1 to 5	4
▪ streamline "installation commander" legal authority for discharges/waivers/AFI's	5	3.9	1.1	2 to 5	4
▪ better align the base with "traditional" wing structures in the AF	5	4.4	0.9	2 to 5	5

Optional-Provide additional comments (agree/disagree/clarify)

6. Additionally, in round two, I asked the panel to rank order the list of responses in Question #5 in terms of importance, with 1 being what you feel is the most important advantage and 11 being the least important. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. You may reorder the entire column or you may choose to simply change only an individual ranking line. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel.

		AVERAGE	STD DEV	RANGE	MEDIAN
▪ improve mission priority for infrastructure, MILCON, repair and refurbishment	1	3.4	2.6	1 to 9	2.5
▪ reduce coordinating officials/agencies for staffing/resource allocation	9	4.3	2.3	1 to 9	4
▪ reduce leader ego management/posturing and disagreements on base priorities	10	8.4	2.3	5 to 11	9.5
▪ reduce confusion amongst community and Joint Base airmen about who is in charge	4	5.2	2.5	2 to 10	4.5
▪ provide Air Force unity of command/unity of effort/clear chain of command	2	2.5	1.5	1 to 6	2
▪ improve staff support to the AMW/AW (PA/Protocol/JAG)	5	6.2	2.1	3 to 11	6
▪ provide unity of purpose for all Air Force personnel on the Joint Base	3	4.9	3.0	2 to 11	4.5
▪ reduce a handful of O-6 billets, plus some administrative/executive positions	8	8.0	2.7	2 to 11	9
▪ eliminate the requirement of the Expeditionary Center as a NAF-type function	7	8.9	1.7	6 to 11	9
▪ streamline "installation commander" legal authority for discharges/waivers/AFI's	6	6.2	2.2	2 to 10	6.5
▪ better align the base with "traditional" wing structures in the AF	11	6.9	4.0	1 to 11	8

Optional-Provide additional comments (agree/disagree/clarify)

7. In round two I asked the panel to list the potential negatives or unintended consequences of combining the 305th Air Mobility Wing or 437th Airlift Wing with the Air Base Wing and you provided the responses. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel.

5 = Strongly Agree
 4 = Agree
 3 = Undecided
 2 = Disagree
 1 = Strongly Disagree

The AMW/AW's consolidation with the ABW could...

		AVERAGE	STD DEV	RANGE	MEDIAN
diminish actual focus on non-Air Force mission partners on the Joint Base	2	2.6	1.0	1 to 4	2
create a "perceived" diminished focus on msn partners	3	3.3	1.0	1 to 4	4
reduce wing command billets for non-rated officers	2	3.5	1.4	1 to 5	4
increase span of control, beyond a reasonable capacity for a single commander	2	2.9	1.5	1 to 5	2
dilute focus on operational mission generation and execution	2	2.7	1.3	1 to 5	2
non-AF Deps/Vices would not have the legal authority to make acft decisions	1	3.5	1.2	1 to 5	3

Optional-Provide additional comments (agree/disagree/clarify)

8. Additionally, in round two, I asked the panel to rank order the list of consequences from Questions #7 in terms of importance from 1 to 6, with 1 being what you feel is the most important and 6 being the least important. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. You may reorder the entire column or you may choose to simply change only an individual ranking line. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel.

		AVERAGE	STD DEV	RANGE	MEDIAN
diminish actual focus on non-AF mission partners on the JB	3	2.6	1.5	1 to 6	2
create a "perceived" diminished focus on msn partners	4	3.5	1.3	1 to 6	4
reduce wing command billets for non-rated officers	5	5.4	1.1	2 to 6	6
increase span of control, beyond a reasonable capacity for a single commander	1	2.4	1.4	1 to 5	2
dilute focus on operational mission generation and execution	2	2.3	1.3	1 to 5	2
non-AF Deps/Vices would not have the authority to make aircraft decisions	6	4.6	1.2	2 to 6	5

Optional-Provide additional comments (agree/disagree/clarify)

9. In round two, I asked the panel to use the likert scale to respond to various statements and thoughts collected from round one. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel

5 = Strongly Agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly Disagree

■ Too many conversations/working groups/meetings have to occur to get things done	_____	3	3.4	1.1	2 to 5	3
■ The wings should be combined and commanded by a Brigadier General	_____	3	3.3	1.3	1 to 5	3
■ Combining the wings would reduce much of the personality/relationship driven friction	_____	4	3.8	1.1	2 to 5	4
■ The wings should be combined and maintain a Vice Wing Commander from each service	_____	4	3.6	1.3	2 to 5	3
■ Specialization allows focus on particular tasks, improving mission effectiveness	_____	2	3.1	1.1	1 to 5	3
■ Combining the wings would reduce coordination for units who are customers of both wings	_____	3	3.9	1.1	1 to 5	4
■ The Joint Base journey is still young and needs more time to overcome service bias/inertia	_____	2	2.7	1.5	1 to 4	2
■ Joint Basing guidance/DOD instructions/regulations are not adequate at this time	_____	3	4.3	0.9	2 to 5	4
■ There should be a vision for joint inspections/inspection visits to avoid overlapping assessments	_____	3	4.2	0.7	3 to 5	4
■ Current construct is reasonably efficient while delivering equal/better services compared to past	_____	1	2.5	1.2	1 to 4	2
■ Eliminating the “dual” 18 AF/EC chains of command would improve command and control	_____	5	3.7	1.3	1 to 5	4
■ The current Joint Base construct is not in line with Air Force doctrine	_____	3	3.4	1.2	1 to 5	4
■ Combining wings would be short-sighted in pursuit of short-term/minor efficiencies	_____	1	2.2	1.3	1 to 5	2
■ The benefits of combining wings do not outweigh the turmoil that would be created	_____	1	2.5	1.4	1 to 5	3
■ Combining wings would lead to less “joint” mission effectiveness for the base as a whole	_____	1	2.5	1.5	1 to 5	2
■ Combining wings makes sense for the AF but not from the Joint/Interagency perspective	_____	2	2.7	1.4	1 to 5	2

Optional-Provide additional comments (agree/disagree/clarify)

10. In this final summation question from round two I asked the panel to utilize the Likert Scale to gauge whether you agree or disagree with the following statements. Please **compare your results** below to the panels and decide if you would like to modify your answer or retain your existing value. If you decide to keep your existing answer please expound below WHY you believe your answers are significantly different or unique from the rest of the panel.

5 = Strongly Agree
4 = Agree
3 = Undecided
2 = Disagree
1 = Strongly Disagree

Overall, if it was my decision, I would <u>not</u> support combining the two wings at this time	___	1	2.1	1.4	1 to 5	1
Overall, if it was my decision, I would support combining the two wings at this time	___	5	3.9	1.4	1 to 5	5
Overall, if it was my decision, I do not know if I would support combining wings at this time	___	1	2.1	1.5	1 to 5	1
Overall, combining the ABW with the AMW/AW is transparent to outside organizations	___	3	3.2	1.3	1 to 5	4

Optional-Provide additional comments (agree/disagree/clarify)

Appendix D. AFIT Human Subjects Exemption Approval



DEPARTMENT OF THE AIR FORCE
AIR FORCE INSTITUTE OF TECHNOLOGY
WRIGHT-PATTERSON AIR FORCE BASE OHIO

21 Nov 2013

MEMORANDUM FOR DR ALAN R. HEMINGER

FROM: Robert F. Mills, Ph.D.
AFIT IRB Exempt Determination Official
2950 Hobson Way
Wright-Patterson AFB, OH 45433-7765

SUBJECT: Approval for exemption request from human experimentation requirements (32 CFR 219, DoDD 3216.2 and AFI 40-402) for *The Future Construct of Air Base Wings on Air Mobility Command Joint Bases*.

1. Your request was based on 32 CFR 219, 101(b)(2), Research activities that involve the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior unless: (i) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) Any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.
2. Your study qualifies for this exemption because you are not collecting sensitive data, which could reasonably damage the subjects' financial standing, employability, or reputation. Appropriate steps are planned to mitigate the chance that any disclosure of subjects' responses would be tied back to the individual. Furthermore, the study questions are of such a nature that the responses would not likely cause serious harm to the individual.
3. This determination pertains only to the Federal, Department of Defense, and Air Force regulations that govern the use of human subjects in research. Further, if a subject's future response reasonably places them at risk of criminal or civil liability or is damaging to their financial standing, employability, or reputation, you are required to file an adverse event report with the AFIT Research Review office immediately.

ROBERT F. MILLS, Ph.D.
AFIT IRB Exempt Determination Official

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May 2014

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Master of Business Administration, Colorado State University, CO, 2009

Squadron Officer School, Maxwell Air Force Base, AL, 2007

Bachelor of Science, Architectural Engineering, Kansas State University, KS,
2001

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KC-10 Instructor Aircraft Command, Chief Wing Executive Officer, 305th Air Mobility Wing, Joint Base McGuire-Dix-Lakehurst, NJ, June 2012 – June 2013

KC-10 Aircraft Commander, Chief of Readiness, 2d Air Refueling Squadron, Joint Base McGuire-Dix-Lakehurst, NJ, June 2010 – June 2012

C-130 Evaluator Pilot, Operations Group Executive Officer, 43d Operations Group, Pope Air Force Base, NC, May 2009 – June 2010

C-130 Evaluator Pilot, Chief of Standardization and Evaluation, 2d Airlift Squadron, Pope Air Force Base, NC, August 2007 – May 2009

C-130 Instructor Pilot, Chief of Training, 39th Airlift Squadron, Dyess Air Force Base, TX, August 2003 – August 2007

Undergraduate Pilot Training, T-44, Corpus Christi Naval Air Station, TX, August 2002 – February 2003

Undergraduate Pilot Training, T-37, Columbus Air Force Base, MS, December 2001 – August 2002

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AWARDS AND DECORATIONS

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USAF American Legion Aviation Valor Award

USAF Chief of Safety Aircrew of Distinction Award

Airlift/Tanker Association General P.K. Carleton Award for Valor
Airlift/Tanker Association General "Dutch" Huyser Pilot of the Year
Air Mobility Command Daedalian Exceptional Pilot Award

MISCELLANEOUS

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Date of Rank 1 Jun 2011

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14. ABSTRACT This research examined the proposed consolidation of the Air Base Wing (ABW) and Air Mobility Wing or Airlift Wing on Air Mobility Command-led Joint Base installations at Joint Base McGuire-Dix-Lakehurst and Joint Base Charleston. This study utilized a Delphi Study of 17 Air Force and Army Officers with experience as Colonels or above as commanders or deputies in the last 3 years at these Joint Bases. The panel shared their insights through three rounds of detailed questionnaires to better understand the potential benefits and consequences of a consolidation of the two wings. This study found that this panel of experts generally tended to support the consolidation of the ABW with AMW or AW on these Joint Bases in favor of unity of command and better alignment with Air Force doctrine and regulations. However, a very clear dissenting minority on the panel expressed concern that this consolidation would result in a reduction in the focus on Army and Navy mission partners on these Air Force-led Joint Bases and increase the span of control of the combined wing commander beyond what may be desired for optimum supervision. These results indicate that consolidation of the wings is a viable path for improved command and control of Air Mobility Command forces on Air Force-led Joint Bases.					
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